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*Entropic Communications, LLC*

**UNITED STATES DISTRICT COURT**  
**CENTRAL DISTRICT OF CALIFORNIA**

ENTROPIC COMMUNICATIONS, LLC,

Plaintiff,

v.

COMCAST CORPORATION; COMCAST  
CABLE COMMUNICATIONS, LLC;  
AND COMCAST CABLE  
COMMUNICATIONS MANAGEMENT,  
LLC,

Defendants.

Case No. 2:23-cv-1050-JWH-KES

~~FIRST~~ SECOND AMENDED  
COMPLAINT FOR PATENT  
INFRINGEMENT

**DEMAND FOR JURY TRIAL**

**REDACTED VERSION OF  
DOCUMENT PROPOSED TO BE  
FILED UNDER SEAL**

1 Plaintiff, Entropic Communications, LLC (“Entropic”), files this complaint for  
2 patent infringement against Comcast Corporation (“Comcast Corp.”); Comcast Cable  
3 Communications, LLC (“Comcast Communications”); and Comcast Cable  
4 Communications Management, LLC (“Comcast Management”) (collectively  
5 “Comcast”) and in support thereof alleges as follows:

6 1. This is a civil action arising under the patent laws of the United States,  
7 35 U.S.C. § 1 *et seq.*, including specifically 35 U.S.C. § 271, based on Comcast’s  
8 infringement of U.S. Patent Nos. 8,223,775 (the “775 Patent”), 8,284,690 (the  
9 “690 Patent”), 8,792,008 (the “008 Patent”), 9,210,362 (the “362 Patent”),  
10 9,825,826 (the “826 Patent”), 10,135,682 (the “682 Patent”), 11,381,866 (the “866  
11 Patent”), ~~and~~ 11,399,206 (the “206 Patent”), 11,785,275 (the “275 Patent”), and  
12 9,866,438 (the “438 Patent”) (collectively, the “Patents-in-Suit”).

### 13 THE PARTIES

14 2. Entropic is a Delaware limited liability company with an office at  
15 7150 Preston Road, Suite 300, Plano, Texas 75024.

16 3. Entropic is the owner by assignment to all right, title, and interest to the  
17 Patents-in-Suit. Entropic is the successor-in-interest of the Patents-in-Suit.

18 4. Upon information and belief, Comcast Corp. is a corporation organized  
19 and existing under the laws of Pennsylvania, with a principal place of business at  
20 1701 JFK Boulevard, Philadelphia, Pennsylvania 19103.

21 5. Comcast Corp. has, as its registered agent in California, CT Corporation  
22 System, 330 N. Brand Blvd., Suite 700, Glendale, California 91203.

23 6. Comcast Corp., along with the other defendants, develops, markets, sells,  
24 offers for sale and/or provides “Comcast” and “Xfinity” branded cable television  
25 services and equipment to customers.

26 7. Comcast Communications is a limited liability company organized and  
27 existing under the laws of Delaware, with a principal place of business at 1701 JFK  
28

1 Boulevard, Philadelphia, Pennsylvania 19103. Upon information and belief, Comcast  
2 Communications is a subsidiary of Comcast Corp.

3 8. Comcast Communications has, as its registered agent in California,  
4 CT Corporation System, 330 N. Brand Blvd., Suite 700, Glendale, California 91203.

5 9. Comcast Communications, along with the other defendants, develops,  
6 markets, sells, offers for sale and/or provides “Comcast” and “Xfinity” branded cable  
7 television services and equipment to customers.

8 10. Comcast Management is a limited liability company organized and  
9 existing under the laws of Delaware, with a principal place of business at 1701 JFK  
10 Boulevard, Philadelphia, Pennsylvania 19103. Upon information and belief, Comcast  
11 Management is a subsidiary of Comcast Corp.

12 11. Comcast Management has, as its registered agent in California, CT  
13 Corporation System, 330 N. Brand Blvd., Suite 700, Glendale, California 91203.

14 12. Comcast Management, along with the other defendants, develops,  
15 markets, sells, offers for sale and/or provides “Comcast” and “Xfinity” branded cable  
16 television services and equipment to customers.

17 13. Comcast Corp. and/or Comcast Communications owns or leases, and  
18 maintains and operates, several stores in this district by and through subsidiary limited  
19 liability companies that they own, manage, and control, including Comcast of Santa  
20 Maria, LLC and Comcast of Lompoc LLC. Upon information and belief, Comcast  
21 Corp. and/or Comcast Communications (and/or other personnel employed by them)  
22 negotiates and signs agreements on behalf of each of these entities.

23 14. Upon information and belief, Comcast Corp. and/or Comcast  
24 Communications are the corporate managers of their subsidiary LLCs that own or  
25 lease property in this district, and that own, store, sell, demonstrate, and lease  
26 equipment in this district. Comcast Corp. and/or Comcast Communications have the  
27 right to exercise near total control of each entity’s operations through its LLC  
28 agreements with each entity.

1           15. In each of those stores, Comcast Corp. and/or Comcast Communications  
2 owns and stores equipment such as cable modems and set top boxes (“STBs”),  
3 including the Accused Cable Modem Products (defined below), Accused Set Top  
4 Products (defined below) and demonstrates ~~services~~ the Accused Services (defined  
5 below) provided via those products to Comcast customers by and through subsidiary  
6 limited liability companies that it manages and controls.

7           16. Upon information and belief, Comcast Corp. and/or Comcast  
8 Communications employs personnel that install, service, repair and/or replace  
9 equipment, as appropriate, in this district by and through subsidiary limited liability  
10 companies that it manages and controls.

11           17. Upon information and belief, Comcast Corp. and/or Comcast  
12 Communications have two wholly owned subsidiaries in this Judicial District of  
13 Central California (“District”) that serve as their agents.

14           18. Comcast of Santa Maria, LLC (“Comcast Santa Maria”) is a limited  
15 liability company organized and existing under the laws of Pennsylvania, with a  
16 principal place of business at 1701 JFK Boulevard, Philadelphia, Pennsylvania 19103.  
17 Comcast Santa Maria is a subsidiary of Comcast Corp.

18           19. Comcast Santa Maria, along with the other defendants, markets, sells,  
19 offers for sale and/or provides “Comcast” and “Xfinity” branded cable television  
20 services and equipment to customers.

21           20. Comcast of Lompoc, LLC (“Comcast Lompoc”) is a limited liability  
22 company organized and existing under the laws of Pennsylvania, with a principal  
23 place of business at 1701 JFK Boulevard, Philadelphia, Pennsylvania 19103. Comcast  
24 Lompoc is a subsidiary of Comcast Corp.

25           21. Comcast Lompoc, along with the other defendants, markets, sells, offers  
26 for sale and/or provides “Comcast” and “Xfinity” branded cable television services  
27 and equipment to customers.

1        22. Upon information and belief, Comcast Communications, Comcast,  
2 Management, Comcast Santa Maria, and Comcast Lompoc are the agents of Comcast  
3 Corp. Upon information and belief, Comcast Corp. has complete and total control  
4 over its agents Comcast Communications, Comcast Management, Comcast Santa  
5 Maria, and Comcast Lompoc. On information and belief, Comcast Corp. shares  
6 management, common ownership, advertising platforms, facilities, distribution chains  
7 and platforms, stores, and accused product lines and products involving related  
8 technologies with its agents, including at least Comcast Communications, Comcast  
9 Management, Comcast Santa Maria, and Comcast Lompoc.

10        23. For example, Comcast Corp., Comcast Communications, Comcast  
11 Management, Comcast Santa Maria, and Comcast Lompoc all have the same principal  
12 place of business at 1701 JFK Boulevard, Philadelphia, Pennsylvania 19103.

13        24. The Comcast “Xfinity Residential Services Agreement” purports to bind  
14 Comcast’s customers, including those customers in this District, to an agreement with  
15 Comcast Communications for, *inter alia*, the Accused Services that Comcast’s  
16 customers receive through the infringing use of the Accused Cable Modem Products  
17 and the Accused Set Top Products.<sup>1</sup> This agreement further provides that an entity  
18 other than Comcast Communications provides the services. Upon information and  
19 belief, the entity that provides the services to Comcast’s customers and subscribers is  
20 Comcast Management.

21        25. Comcast Management further shares a leadership team with Comcast  
22 Corp.<sup>2</sup> For example, Brian Roberts is the Chairman and Chief Executive Officer of

23 <sup>1</sup> <https://www.xfinity.com/Corporate/Customers/Policies/SubscriberAgreement>.

24 <sup>2</sup> Compare names found in Exhibit A to the attached  
25 [https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/communications-division/do](https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/communications-division/documents/video-franchising-and-broadband-analysis/video-franchising-main/applications-received-by-the-puc/2022/20220926-comcast-48a/comcast-48a-application.pdf)  
26 [cuments/video-franchising-and-broadband-analysis/video-franchising-main/applicatio](https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/communications-division/documents/video-franchising-and-broadband-analysis/video-franchising-main/applications-received-by-the-puc/2022/20220926-comcast-48a/comcast-48a-application.pdf)  
27 [ns-received--by-the-puc/2022/20220926-comcast-48a/comcast-48a-application.pdf](https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/communications-division/documents/video-franchising-and-broadband-analysis/video-franchising-main/applications-received-by-the-puc/2022/20220926-comcast-48a/comcast-48a-application.pdf)  
28 with the bios of the identified personnel at Comcast’s corporate leadership website,  
<https://corporate.comcast.com/company/leadership>.

1 both Comcast Management and Comcast Corp.; Daniel Murdock is Executive Vice  
2 President and Chief Accounting Officer of both Comcast Corp. and Comcast  
3 Management; Francis Buono is Executive Vice President of Legal Regulatory Affairs  
4 and Senior Deputy General Counsel of both Comcast Corp. and Comcast  
5 Management; and Karen Buchholz is Executive Vice President, Administration of  
6 both Comcast Corp. and Comcast Management.

7 **PRE-SUIT DISCUSSIONS**

8 26. Prior to filing this Complaint, Entropic sent a communication by physical  
9 means to Comcast on August 9, 2022, in an attempt to engage Comcast and/or its  
10 agents in good faith licensing discussions regarding Entropic's patent portfolio,  
11 including the Patents-in-Suit.<sup>3</sup> Comcast replied to the communication on October 10,  
12 2022, asking for additional information. On December 23, 2022, Entropic sent  
13 Comcast another communication regarding a separate license to Entropic's patents for  
14 the field of the standardized networking technology commonly called MoCA, and also  
15 seeking to discuss with Comcast a typical non-disclosure agreement in order to share  
16 such information.

17 **ENTROPIC'S LEGACY AS A CABLE INNOVATOR**

18 27. Entropic Communications Inc. ("Entropic Inc."), the  
19 predecessor-in-interest to Entropic as to the Patents-in-Suit, was founded in San  
20 Diego, California in 2001 by Dr. Anton Monk, Itzhak Gurantz, Ladd El Wardani and  
21 others. Entropic Inc. was exclusively responsible for the development of the initial  
22 versions of the Multimedia over Coax Alliance ("MoCA") standards, including  
23 MoCA 1.0, ratified in 2006 and MoCA 1.1, ratified in 2007, and was instrumental in  
24 the development of MoCA 2.0, ratified in 2010. It also developed Direct Broadcast  
25 Satellite ("DBS") Outdoor Unit ("ODU") single wire technology and System-on-Chip  
26

27 <sup>3</sup> The '206 Patent was not included in the list of issued Entropic patents discussed in  
28 the communication sent on August 9, 2022.

1 (“SoC”) solutions for set-top boxes (STBs) in the home television and home video  
2 markets. Entropic was widely known in the cable industry for these innovations and  
3 its foundational development of MoCA.

4 28. Under the technical guidance of Dr. Monk, Entropic Inc. grew to be  
5 publicly listed on the NASDAQ in 2007. After the public listing, the company  
6 acquired RF Magic, Inc. in 2007, a company specializing in DBS ODU technology  
7 and related hardware.

8 29. Additional growth between 2007 and 2015 bolstered the technical  
9 expertise of Entropic Inc. with respect to signal acquisition, stacking, filtering,  
10 processing, and distribution for STBs and cable modems.

11 30. For years, Entropic Inc. pioneered innovative networking technologies,  
12 as well as television and internet-related technologies. These technologies simplified  
13 the installation required to support wideband reception of multiple channels for  
14 demodulation, improved home internet performance, and enabled more efficient and  
15 responsive troubleshooting and upstream signal management for cable providers.  
16 These innovations represented significant advances in the field, simplified the  
17 implementation of those advances, and reduced expenses for providers and customers  
18 alike.

19 **MAXLINEAR’S TRANSFER OF PATENTS TO ENTROPIC**

20 31. In 2015, MaxLinear, Inc. and MaxLinear, LLC (collectively,  
21 “MaxLinear”)—leading providers of radio-frequency, analog, digital, and  
22 mixed-signal semiconductor solutions—acquired Entropic Inc., as well as the  
23 pioneering intellectual property developed by Dr. Monk and his team.

24 32. Plaintiff Entropic was established in 2021 [REDACTED]  
25 [REDACTED]  
26 [REDACTED]  
27 [REDACTED]  
28 [REDACTED]

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7 [REDACTED]  
8 35. [REDACTED]  
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11 [REDACTED]  
12 [REDACTED]  
13 [REDACTED]  
14 36. [REDACTED]  
15 [REDACTED]  
16 [REDACTED]  
17 37. Entropic has the full right to pursue the patent infringement claims  
18 asserted in this action against Comcast.  
19 A. [REDACTED]  
20 [REDACTED]  
21 [REDACTED]  
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23 [REDACTED]  
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26 [REDACTED]  
27 [REDACTED]  
28 [REDACTED]

1 39. [REDACTED]  
2 [REDACTED]  
3 [REDACTED]  
4 [REDACTED] [REDACTED]  
5 [REDACTED]  
6 [REDACTED]  
7 [REDACTED]  
8 [REDACTED]  
9 41. [REDACTED]  
10 [REDACTED]  
11 [REDACTED] [REDACTED]  
12 [REDACTED]  
13 [REDACTED] [REDACTED]  
14 [REDACTED]  
15 [REDACTED]  
16 44. [REDACTED]  
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19 [REDACTED]  
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21 [REDACTED] [REDACTED]  
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24 47. [REDACTED]  
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11 57. [REDACTED]  
12 [REDACTED]  
13 [REDACTED]  
14 [REDACTED]  
15 [REDACTED]  
16 B. [REDACTED]  
17 [REDACTED]  
18 [REDACTED]  
19 [REDACTED]  
20 [REDACTED]

21 **C. Comcast Has, and Continues, to Willfully and Intentionally Infringe**  
22 **Entropic's Patents**

23 60. The Patents-in-Suit are the result of years of research and development in  
24 satellite and cable technology. These innovations are utilized by Comcast to provide  
25 enhanced and expanded services to customers, which in turn has increased revenues  
26 for Comcast while at the same time reducing costs.

27 61. Entropic filed a patent infringement suit against Charter  
28 Communications, Inc. ("Charter") in the Eastern District of Texas, Case No.

1 2:22-CV-00125-JRG (“the Charter Suit”), on April 27, 2022, asserting the ’775  
2 Patent, the ’690 Patent, the ’008 Patent, the ’362 Patent, the ’826 Patent, and the ’682  
3 Patent against Charter’s provision of cable television and internet services, cable  
4 modem products and STBs.

5 62. Upon information and belief, Comcast analyzed the claims in the Charter  
6 Suit and the asserted patents.

7 63. Upon information and belief, Comcast analyzed its products’  
8 functionality in light of the patents asserted in the Charter Suit.

9 64. Upon information and belief, Comcast monitored the ongoing  
10 prosecution of the ’362 Patent family, and therefore was aware the ’866 Patent issued  
11 on July 5, 2022, and the ’206 Patent issued on July 26, 2022.

12 65. Upon information and belief, Comcast analyzed its products’  
13 functionality in light of the ’866 Patent.

14 66. Upon information and belief, Comcast analyzed its products’  
15 functionality in light of the ’206 Patent.

16 67. Upon information and belief, Comcast requested indemnification from  
17 Comcast’s suppliers for each of the patents asserted against Charter, including the  
18 MoCA related patents, prior to Entropic filing the current action.

19 68. Entropic filed a patent infringement suit against Dish Network  
20 Corporation, DISH Network, LLC, and Dish Network Service, LLC (collectively,  
21 “Dish”) in the Eastern District of Texas, Case No. 2:22-CV-00076, on March 9,  
22 2022, asserting infringement of three Entropic patents, including the ’008 Patent (the  
23 “Dish Suit”).

24 69. Entropic filed a patent infringement suit against DirecTV, LLC, AT&T,  
25 Inc., AT&T Services, Inc., and AT&T Communications, LLC in the Eastern District  
26 of Texas, Case No. 2:22-CV-00075 on March 9, 2022, asserting infringement of  
27 three Entropic patents, including the ’008 Patent (the “DirecTV Suit”).  
28

1           70. Upon information and belief, Comcast discussed the Charter Suit, Dish  
2 Suit, and DirecTV Suit with RPX Corporation (“RPX”). Either before or shortly after  
3 its discussions with RPX, Comcast substantively reviewed and analyzed the patents  
4 asserted in the Charter Suit, Dish Suit, and DirecTV Suit.

5           71. Upon information and belief, Comcast subsequently suggested that RPX  
6 reach out to Entropic to try to resolve the matters.

7           72. Comcast also attached to its own motion to dismiss [REDACTED]  
8 [REDACTED]  
9 [REDACTED] See Dkt. No.  
10 39-1, Ex. A. [REDACTED]  
11 [REDACTED]  
12 [REDACTED]

13           73. Comcast also willfully infringed two other MaxLinear patents no later  
14 than March 20, 2019. Specifically, U.S. Patent No. 10,582,515 assigned to and  
15 prosecuted by Comcast cites to two patents assigned to MaxLinear, U.S. Patent Nos.  
16 9,178,765 and 9,419,858. These two MaxLinear patents were cited by the examiner in  
17 a non-final rejection on March 20, 2019. On information and belief, Comcast  
18 infringes at least claim 1 of both the ’765 and ’858 patents. On information and belief,  
19 no later than that date, Comcast substantively reviewed and analyzed the ’765 and  
20 ’858 patents. On information and belief, Comcast has willfully infringed the ’765 and  
21 ’858 patents beginning no later than March 20, 2019.

22           **1. Comcast Willfully Infringed, and Continues to Infringe, Entropic’s**  
23           **MoCA Patents**

24           74. Comcast invested in Entropic once in 2003, and again in 2006.

25           75. Upon information and belief, Comcast substantively reviewed and  
26 analyzed Entropic’s patents and patent applications related to the Entropic’s MoCA  
27 standard patents as part of its due diligence prior to investing in Entropic.  
28

1           76. Upon information and belief, the patents and patent applications that  
2 Comcast analyzed prior to investing in Entropic include at least the following patents:  
3 U.S. Patent No. 7,295,518 (the “’518 Patent”), duly issued on November 13, 2007  
4 from an application filed December 18, 2002, an application filed August 19, 2002  
5 and, *inter alia*, a provisional application filed August 30, 2001; U.S. Patent No.  
6 7,594,249, duly issued on September 22, 2009 from an application filed July 21, 2001,  
7 and a provisional application filed May 4, 2001; U.S. Patent No. 7,889,759 (the  
8 “’759 Patent”), duly issued on February 15, 2011 from an application filed July 12,  
9 2004, an application filed August 29, 2002, and, *inter alia* a provisional application  
10 filed August 30, 2001; U.S. Patent No. 8,085,802, duly issued on December 27, 2011  
11 from an application filed December 2, 2005, and a provisional application filed  
12 December 2, 2004; U.S. Patent No. 8,631,450, duly issued on January 14, 2014, from  
13 an application filed September 19, 2005 and, *inter alia*, a provisional application filed  
14 December 2, 2004; U.S. Patent No. 8,621,539, duly issued on December 31, 2013  
15 from an application filed September 29, 2005 and, *inter alia*, a provisional application  
16 filed December 2, 2004; U.S. Patent No. 10,257,566, duly issued on April 9, 2019  
17 from an application filed February 7, 2017, an application filed September 19, 2005,  
18 and *inter alia*, a provisional application filed December 2, 2004 (collectively, the  
19 “Pre-Investment MoCA Patents”). On information and belief, Comcast knew, based  
20 on its own analysis and also potentially statements from Entropic itself, that these  
21 patents were standard-essential to MoCA, such that practicing the MoCA standard  
22 would infringe these patents.

23           77. Upon information and belief, no later than the day prior to its latest  
24 investment in Entropic in 2006, Comcast knew or had every reason to know that  
25 Entropic owned the Pre-Investment MoCA Patents related to the MoCA technology  
26 such that deployment of MoCA standard-compliant devices would infringe patents  
27 owned by Entropic.  
28

1           78. Upon information and belief, no later than the day prior to its latest  
2 investment in Entropic in 2006, any reasonable commercial party in Comcast's  
3 position, with Comcast's knowledge, would know that deployment of MoCA  
4 standard-compliant devices would infringe on the Pre-Investment MoCA Patents  
5 owned by Entropic. On information and belief, Comcast continued to monitor and  
6 analyze Entropic's MoCA-related patents and was aware of later-filed patents that are  
7 standard-essential to MoCA simply due to the importance of MoCA to Comcast's  
8 business and Comcast's later involvement as a board member of MoCA.

9           79. No later than 2010 and continuing to the present, Comcast has used  
10 products that provide signals, programming and content utilizing a data connection  
11 carried over a coaxial cable network in accordance with the MoCA standards,  
12 including at least the Arris DCX3200, DCX3400, DCX3500, XG1-A, XG1v3,  
13 XG1v4, XG2v2, Arris MR150CNM, Pace PR150BNM, Pace PX032ANI, Pace  
14 PXD01ANI, Samsung SR150BNM, and similarly operating devices. Because  
15 Comcast was already aware of Entropic's Pre-Investment MoCA patents and knew  
16 that those patents were standard-essential, Comcast knew that its use of these devices  
17 would directly infringe the Pre-Investment MoCA patents. Despite this knowledge,  
18 Comcast willfully infringed the Pre-Investment Patents beginning no later than 2010.

19           80. Upon information and belief, Comcast was involved with and/or a  
20 member of MoCA from the earliest days of MoCA, through at least August 2019.  
21 Indeed, Comcast was a member of the MoCA board of directors.<sup>6</sup>

22           81. Entropic filed a patent infringement suit against ViXS Systems, Inc. and  
23 ViXS USA, Inc. in the Southern District of California, Case No.  
24 13-CV-1102-WQHBGS ("the ViXS Suit"), on May 8, 2013, asserting infringement of  
25 the '759 Patent and the '518 Patent. Both patents are essential to the standards  
26 developed and promulgated by MoCA.

27  
28 <sup>6</sup> See <https://mocalliance.org/about/faqs.php>.

1           82. Upon information and belief, as a member of MoCA, Comcast analyzed  
2 the claims in the ViXS Suit and the asserted patents.

3           83. Upon information and belief, Comcast analyzed its products'  
4 functionality in light of the patents asserted in the ViXS Suit.

5           84. Because Comcast already was using and deploying devices practicing the  
6 MoCA standards (and continued to do so), Comcast willfully infringed the '759 and  
7 '518 Patents no later than May 8, 2013, after substantively analyzing the complaint  
8 and asserted patents from the ViXS suit.

9           85. As a member of MoCA, Comcast was well aware that Entropic, the  
10 owner of the MoCA Patents in the ViXS Suit, was the leading contributor of  
11 technology to the standards promulgated by MoCA, which are implicated by the  
12 claims of patent infringement in the ViXS Suit.

13           86. Upon information and belief, Comcast therefore knew that MaxLinear  
14 and Entropic Communications Inc. were significant players in MoCA.

15           87. Upon information and belief, Comcast knew that MoCA had tremendous  
16 success, given its public success through Verizon Wireless's deployment of Fios.

17           88. Upon information and belief, Comcast knew that MaxLinear, Inc. was a  
18 member of MoCA since at least 2011.

19           89. Comcast and MaxLinear, Inc. were both board members of MoCA from  
20 at least 2015 through August 2019. By virtue of Comcast's participation in MoCA and  
21 its ongoing, extensive use of MoCA standards, on information and belief, Comcast  
22 monitored the publication and issuance of patents that would be standard-essential,  
23 including MaxLinear and Entropic Communications Inc. patents. Because Comcast  
24 was using devices that practiced the MoCA standards, Comcast willfully infringed  
25 each MaxLinear and Entropic Communications Inc. patent that was standard-essential  
26 to MoCA no later than shortly after the issuance of those patents. To the extent  
27 Comcast did not engage in such review, it constitutes willful blindness to patent  
28

1 infringement due to Comcast's knowledge of the foundational role and contributions  
2 of Entropic Communications Inc. and MaxLinear to the MoCA standards.

3 90. Upon information and belief, Comcast was aware that Entropic  
4 Communications Inc. owned patents that were and are essential to the practice of the  
5 MoCA standard.<sup>7</sup>

6 91. At least as early as January 1, 2020, Comcast knew that MaxLinear  
7 owned patents that were essential to practicing the technology embodied in one or  
8 more standards promulgated by MoCA.

9 92. Comcast knew that MaxLinear acquired Entropic Communications Inc.  
10 and its patents in 2015.<sup>8</sup> Because Comcast already knew it was willfully infringing  
11 patents owned by Entropic Communications Inc., Comcast therefore knew that it was  
12 willfully infringing patents that were standard-essential to MoCA that now were  
13 owned by MaxLinear no later than 2015.

14 93. No later than the day prior to [REDACTED]  
15 [REDACTED]  
16 [REDACTED]  
17 [REDACTED]

18 94. No later than the day prior to [REDACTED]  
19 [REDACTED]  
20 [REDACTED]  
21 [REDACTED]

22 Despite this knowledge, Comcast continued to use and  
23 deploy devices practicing the MoCA standards and therefore willfully infringing  
24 patents owned by MaxLinear, including at least

25 <sup>7</sup>See

26 <https://www.sec.gov/Archives/edgar/data/1227930/000122793015000006/entr2014123110-k.htm>.

27 <sup>8</sup> See [https://investors.maxlinear.com/annual-reports?form\\_type=10-K&year=](https://investors.maxlinear.com/annual-reports?form_type=10-K&year=).

1           95. Accordingly, Comcast either knew about the MoCA Patents, or  
2 alternatively engaged in a scheme to be willfully blind to the existence of such  
3 Patents, as set forth in the concurrently filed *Entropic Communications, Inc. v.*  
4 *Comcast Corporation, et al.*, No. 2:23-cv-1048-JWH-KES (C.D. Cal. 2023). Comcast  
5 therefore willfully infringed at least the Pre-Investment MoCA Patents, later-issued  
6 MoCA patents, and the patents asserted in the ViXS case no later than the day prior to  
7 [REDACTED]

8           **2. Comcast Willfully Infringed, and Continues to Infringe, Entropic's**  
9           **Patents-in-Suit**

10          96. Upon information and belief, Comcast substantively reviewed and  
11 analyzed the '775 Patent-in-Suit, duly issued on July 17, 2012 from an application  
12 filed September 30, 2003, as part of its due diligence prior to investing in Entropic in  
13 2006.

14          97. Accordingly, upon information and belief, no later than the day prior to  
15 its latest investment in Entropic in 2006, Comcast knew or had every reason to know  
16 that Entropic owned the '775 Patent-in-Suit. Because Comcast knew of the '775  
17 patent and substantively reviewed its claims, Comcast began willfully infringing the  
18 '775 patent no later than the dates it began offering the Accused Cable Modem  
19 products and services, having knowledge that such use and deployment infringed the  
20 '775 patent.

21          98. Additionally, Comcast and MaxLinear, Inc. were engaged in a  
22 longstanding commercial relationship for years.

23          99. [REDACTED]  
24 [REDACTED]  
25 [REDACTED]  
26 [REDACTED]  
27 [REDACTED]  
28 [REDACTED]

1 100. [REDACTED]  
2 [REDACTED]  
3 [REDACTED]

4 related to non-standardized technologies deployed in the cable television and/or cable  
5 internet businesses, technologies that Comcast uses and deploys.

6 101. As addressed above in paragraphs 67 through 74, Comcast has willfully  
7 infringed at least the '362 patent, the '826 patent, and the '206 patent through its  
8 knowledge gained from the Charter litigation, and was aware of (and substantively  
9 analyzed its infringement of) the other Patents-in-Suit no later than the letter sent by  
10 Entropic in August 2022.

11 102. Accordingly, Comcast either knew about the Patents-in-Suit, or  
12 alternatively engaged in a scheme to be willfully blind to the existence of the  
13 Patents-in-Suit.

14 103. Upon information and belief, in addition to the knowledge as set forth  
15 above, one of the named inventors of the '008 Patent and '826 Patent, Patrick Tierney,  
16 now works at Comcast. Accordingly, upon information and belief, Comcast knew of  
17 the aforementioned Patents-in-Suit as early as the day Patrick Tierney was hired.

18 104. To date, Comcast has continued its wrongful and willful use of the  
19 Patents-in-Suit, and has further continued its attempts to shield itself from liability for  
20 its wrongful use thereof.

### 21 **JURISDICTION AND VENUE**

22 105. This Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331  
23 and 1338(a) because the claims herein arise under the patent laws of the United States,  
24 35 U.S.C. § 1 *et seq.*, including 35 U.S.C. § 271.

25 106. Venue in this District is proper pursuant to 28 U.S.C. § 1400(b), because  
26 Comcast has regular and established places of business in this District. The  
27 defendants, by themselves and/or through their agents, have committed acts of patent  
28 infringement within the State of California and within this District by using, selling,

1 offering for sale, and/or leasing various telecommunication services products and  
2 services.

3 107. This Court has general personal jurisdiction over Comcast Corp. because  
4 it conducts systematic and regular business within the State of California by, *inter alia*  
5 providing cable television, internet, and phone services to businesses and residents  
6 throughout the state. Comcast Corp.'s website states that, "Comcast is deeply  
7 committed to California, where our nearly 5,000 employees serve more than 3 million  
8 customers throughout the state."<sup>9</sup>

9 108. Upon information and belief, Comcast Management has a regular and  
10 established place of business in the State of California including at least at 3055  
11 Comcast Place, Livermore, California 94551.

12 109. The Court has personal jurisdiction over Comcast Corp., Comcast  
13 Communications and Comcast Management because they have committed acts of  
14 infringement within the State of California and within this District through, for  
15 example, providing through their wholly owned subsidiaries, "Comcast" and  
16 "Xfinity" branded products and services, including, Xfinity set top boxes ("STBs")  
17 and Xfinity digital video, audio, and other content services to customers. Comcast  
18 provides cable television and internet services ("Accused Services") via the lease,  
19 sale, and/or distribution of cable modems and set top boxes both online and from  
20 Comcast stores in this District. For example, Comcast has and continues to sell, lease,  
21 and/or distribute the Technicolor TC8717 cable modem, Technicolor CGM4140 cable  
22 modem, Technicolor CGM4331 cable modem, and products that operate in a similar  
23 manner ("Accused Cable Modem Products"), as well as the Arris AX013ANC STB,  
24 Arris AX013ANM STB, Arris AX014ANC STB, Arris AX014ANM STB, Arris  
25 MX011ANC STB, Arris MX011ANM STB, Pace PX001ANC STB, Pace

26 <sup>9</sup> See

27 [https://california.comcast.com/about/#:%7E:text=Comcast%20is%20deeply%20com](https://california.comcast.com/about/#:%7E:text=Comcast%20is%20deeply%20committed%20to,smart%20home%E2%80%9D%20and%20phone%20service.)  
28 [mitted%20to,smart%20home%E2%80%9D%20and%20phone%20service.](https://california.comcast.com/about/#:%7E:text=Comcast%20is%20deeply%20committed%20to,smart%20home%E2%80%9D%20and%20phone%20service.)

1 PX013ANC STB, Pace PX013ANM STB, Pace PX022ANC STB, Pace PX022ANM  
2 STB, Samsung SX022ANC STB, Samsung SX022ANM STB, and products that  
3 operate in a similar manner (“Accused Set Top Products”).<sup>10</sup>

4 110. Upon information and belief, Comcast Corp., Comcast Communications,  
5 and Comcast Management, by themselves and/or through their agents, offer various  
6 telecommunication services throughout the United States. Comcast operates and  
7 maintains a nationwide television and data network through which it sells, leases, and  
8 offers for sale products and services, including the Accused Services, Accused Cable  
9 Modem Products and Accused Set Top Products, to businesses, consumers, and  
10 government agencies. Through its subsidiaries, Comcast Corp. offers to sell, sells, and  
11 provides “Comcast” and “Xfinity” branded products and services, including cable  
12 modems, set top boxes, and digital video, audio, and other content services to  
13 customers. Subscribers to Comcast’s television services receive one or more receivers  
14 and/or set-top boxes within this District. Subscribers to Comcast’s internet services  
15 receive one or more cable modems within this District.

16 111. Upon information and belief, those services are provided through and  
17 using the Accused Cable Modem Products and Accused Set Top Products.

18 112. Upon information and belief, Comcast Corp., Comcast Communications,  
19 and Comcast Management, by themselves and/or through their agents, Comcast Santa  
20 Maria and/or Comcast Lompoc, operate their businesses through *inter alia* offices,  
21 warehouses, storefronts, and/or other operational locations within this District,  
22 including, for example, at the Xfinity by Comcast stores located in this District at 685  
23 East Betteravia Rd., Santa Maria, California 93454; and 1145 N. H Street, Suite B,

24 <sup>10</sup> Entropic provided its initial infringement contentions for the ’775, ’690, ’008, ’362,  
25 ’826, ’682, ’866, and ’206 Patents on September 15, 2023. Entropic provided its  
26 initial infringement contentions for the ’438 and ’275 Patents on November 3, 2023.  
27 Entropic has revised this Second Amended Complaint to reflect the initial  
28 infringement contentions, which include references to certain documents provided in  
discovery to Comcast by Entropic.

1 Lompoc, California 93436. Comcast holds out these locations as its own through the  
2 use of branding on the locations themselves.

3 113. Comcast lists these Xfinity by Comcast stores on its website and holds  
4 them out as places where customers can obtain the Accused Services, Accused Cable  
5 Modem Products and Accused Set Top Products.

6 114. Upon information and belief, one or more of the defendants owns and/or  
7 leases the premises where these Xfinity by Comcast stores are located.

8 115. Upon information and belief, these Xfinity by Comcast stores are staffed  
9 by persons directly employed by Comcast, many of whom live in this District.

10 116. Upon information and belief, one or more of the defendants has engaged  
11 in regular and established business at physical places within this District such as at  
12 these two Xfinity by Comcast stores.

13 117. Upon information and belief, Comcast employs and/or contracts with  
14 persons and directs them to install, service, repair, and/or replace equipment, as  
15 appropriate, in this District.

16 118. Upon information and belief, in each of these stores and/or service  
17 centers, Comcast owns and stores equipment such as cable modems and set top boxes  
18 and demonstrates services provided via those products to Comcast customers.

19 119. Comcast has adopted and ratified the Comcast and Xfinity-branded  
20 locations identified in this District. The Comcast website advertises Comcast service  
21 packages available from Comcast-authorized retailers in this District, and prospective  
22 employees can find Comcast job listings in this District. Furthermore, the “corporate”  
23 section of Comcast’s main website has a section containing “Special Information  
24 Regarding California Residents’ Privacy Rights,” which demonstrates that Comcast is  
25 purposefully holding itself out as providing products and services in California.

26 120. Upon information and belief, Comcast Corp., and/or Comcast  
27 Communications, by themselves and/or through their agent, Comcast Management,  
28 provides the Accused Services throughout the United States and in this District.

1 121. Upon information and belief, Comcast Corp. and/or Comcast  
2 Management, by themselves, and/or through their agent, Comcast Communications,  
3 sells, and offers for sale, and provides the Accused Services, the Accused Cable  
4 Modem Products and the Accused Set Top Products throughout the United States and  
5 in this District.

6 122. The Accused Services are available for subscription from various  
7 physical stores, including those at 685 East Betteravia Rd., Santa Maria, California,  
8 93454; and 1145 N. H Street, Suite B, Lompoc, California 93436.

9 123. The devices, including the Accused Cable Modem Products and the  
10 Accused Set Top Products provided by Comcast to supply the Accused Services, are  
11 provided to customers in this District and may be obtained by customers from  
12 physical locations in this District, including those at 685 East Betteravia Rd., Santa  
13 Maria, California, 93454; and 1145 N. H Street, Suite B, Lompoc, California 93436.

14 124. Venue is further proper because Comcast has committed and continues to  
15 commit acts of patent infringement in this District, including making, using, offering  
16 to sell, and/or selling Accused Services, Accused Cable Modem Products and  
17 Accused Set Top Products in this District, and/or importing the Accused Cable  
18 Modem Products and Accused Set Top Products into, and thereafter providing  
19 Accused Services in, this District, including by Internet sales and sales via retail and  
20 wholesale stores. Furthermore, for example, Comcast deploys Accused Cable Modem  
21 Products and Accused Set Top Products to many thousands of locations (e.g.,  
22 customer premises) in this District and subsequently, by means of those  
23 instrumentalities, uses the claimed inventions at those locations in this District.  
24 Comcast infringes by inducing and contributing to acts of patent infringement in this  
25 District and/or committing at least a portion of any other infringement alleged herein  
26 in this District.

27 125. Comcast continues to conduct business in this District, including the acts  
28 and activities described in the preceding paragraph.

**COUNT I**

**(Infringement of the '775 Patent)**

126. Entropic incorporates by reference each allegation of the paragraphs above as if fully set forth herein.

127. Entropic served infringement contentions which included a claim chart for the '775 Patent on September 15, 2023.

128. ~~127.~~ The '775 Patent duly issued on July 17, 2012 from an application filed September 30, 2003.

129. ~~128.~~ Entropic owns all substantial rights, interest, and title in and to the '775 Patent, including the sole and exclusive right to prosecute this action and enforce the '775 Patent against infringers and to collect damages for all relevant times.

130. ~~129.~~ The '775 Patent generally describes a partitioned cable modem that performs cable modem functions and data and home networking functions. Functionally partitioning a cable modem to perform cable modem functions and data and home networking functions enables a cable modem to incorporate a variety of enhanced functions. A true and accurate copy of the '775 Patent is attached hereto as Exhibit 1.

131. ~~130.~~ The '775 Patent is directed to patent-eligible subject matter pursuant to 35 U.S.C. § 101.

132. ~~131.~~ The '775 Patent is valid and enforceable, and presumed as such, pursuant to 35 U.S.C. § 282.

133. ~~132.~~ Comcast deploys one or more of the Accused Cable Modem Products in connection with operating and providing the Accused Services.

134. ~~133.~~ The Accused Cable Modem Products deployed by Comcast to customer premises remain the property of Comcast while deployed.

135. ~~134.~~ The Accused Cable Modem Products operate while deployed in a manner controlled and intended by Comcast.

1 136. ~~135.~~ As set forth in the attached nonlimiting claim chart (Exhibit 2),  
2 Comcast has directly infringed and is infringing at least Claims 18 and 19 of the '775  
3 Patent by using, importing, selling, and/or offering for sale the Accused Cable Modem  
4 Products and/or the Accused Services.

5 137. ~~136.~~ Each aspect of the functioning of the Accused Cable Modem  
6 Products described in the claim chart operates while deployed to customer premises in  
7 a manner controlled and intended by Comcast.

8 138. ~~137.~~ Comcast provides no software, support, or other facility to  
9 customers to modify any aspect of the functioning described in the claim chart of the  
10 Accused Cable Modem Products while deployed to customer premises.

11 139. ~~138.~~ Comcast directly infringes at least Claims 18 and 19 of the '775  
12 Patent by using, importing, selling, and/or offering for sale the Accused Cable Modem  
13 Products (for example, the Technicolor CGM4140 cable modem) and/or the Accused  
14 Services (for example, utilizing cable modem functions).

15 140. ~~139.~~ The use of the Accused Cable Modem Products by Comcast to, for  
16 example, demonstrate products in brick-and-mortar stores at 685 East Betteravia Rd.,  
17 Santa Maria, California, 93454; and 1145 N. H Street, Suite B, Lompoc, California  
18 93436, or to, for example, test those products, constitute acts of direct infringement of  
19 at least Claims 18 and 19 of the '775 Patent.

20 141. ~~140.~~ Comcast has known of or has been willfully blind to the '775 Patent  
21 since no later than the day before signing the [REDACTED]

22 142. ~~141.~~ Comcast has known of or has been willfully blind to the '775 Patent  
23 since no later than the day before investing in Entropic in or about 2006.

24 143. ~~142.~~ Comcast has known of the '775 Patent no later than its receipt of  
25 Entropic's communication sent to Comcast on August 9, 2022.

26 144. ~~143.~~ Comcast has been aware that it infringes the '775 Patent since well  
27 before, and no later than the date of, its receipt of Entropic's August 9, 2022  
28

1 communication, attached as Exhibit 17. Since obtaining knowledge of the '775 Patent  
2 and its infringing activities, Comcast has failed to cease its infringing activities.

3 145. ~~144.~~ Customers and subscribers of Comcast infringe at least Claims 18  
4 and 19 of the '775 Patent by using the claimed system, at least during the use of the  
5 Accused Cable Modem Products ~~(for example, the Technicolor CGM4140 cable~~  
6 ~~modem).~~

7 146. ~~145.~~ Comcast actively induces customers' direct infringement. For  
8 example, Comcast actively induces infringement of at least Claims 18 and 19 of the  
9 '775 Patent by providing the Accused Cable Modem Products to Comcast customers  
10 with specific instructions and/or assistance (including installation) regarding the use  
11 of the Accused Cable Modem Products to infringe the '775 Patent in accordance with  
12 the ordinary course of operation through the provision of the Accused Services. For at  
13 least the above-listed reasons, Comcast aids, instructs, supports, and otherwise acts  
14 with the intent to cause an end user to use the Accused Cable Modem Products to  
15 infringe at least Claims 18 and 19 of the '775 Patent.

16 147. ~~146.~~ Comcast contributes to the customers' direct infringement. Comcast  
17 provides apparatuses, namely the Accused Cable Modem Products, that are used by  
18 customers to directly infringe at least Claims 18 and 19 of the '775 Patent.

19 148. ~~147.~~ The Accused Cable Modem Products have no substantial  
20 noninfringing uses. When an end user uses the Accused Cable Modem Products to  
21 receive the Accused Services, the end user directly infringes at least Claims 18 and 19  
22 of the '775 Patent. The Accused Cable Modem Products are especially made or  
23 especially adapted for use in an infringing manner.

24 149. ~~148.~~ Comcast's inducement of, and contribution to, the direct  
25 infringement of at least Claims 18 and 19 of the '775 Patent is continuous and  
26 ongoing through acts such as providing the Accused Cable Modem Products to  
27 Comcast customers, which enables those customers to receive the Accused Services;  
28 Comcast's provision of the Accused Services; and technical assistance provided by

1 Comcast for equipment it provides to its customers in support of the provision of the  
2 Accused Services.

3 150. ~~149.~~ Comcast's infringement of the '775 Patent is, has been, and  
4 continues to be willful, intentional, deliberate, and/or in conscious disregard for  
5 Entropic's rights under the patent.

6 151. ~~150.~~ Entropic has been damaged as a result of the infringing conduct  
7 alleged above. Comcast is liable to Entropic in an amount that compensates Entropic  
8 for Comcast's infringement, which by law cannot be less than a reasonable royalty,  
9 together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

10 152. ~~151.~~ Entropic is aware of no obligation to mark any instrumentality with  
11 the '775 Patent in accordance with 35 U.S.C. § 287.

## 12 COUNT II

### 13 (Infringement of the '690 Patent)

14 153. ~~152.~~ Entropic incorporates by reference each allegation above as if fully  
15 set forth herein.

16 154. Entropic served infringement contentions which included a claim chart  
17 for the '690 Patent on September 15, 2023.

18 155. ~~153.~~ The '690 Patent duly issued on October 9, 2012 from an application  
19 filed December 10, 2009, and, *inter alia* a provisional application filed May 19, 2009  
20 and a provisional application filed December 15, 2008.

21 156. ~~154.~~ Entropic owns all substantial rights, interest, and title in and to the  
22 '690 Patent, including the sole and exclusive right to prosecute this action and enforce  
23 the '690 Patent against infringers and to collect damages for all relevant times.

24 157. ~~155.~~ The '690 Patent generally describes the process of generating probe  
25 transmissions in response to a request from a receiving node of a network, wherein the  
26 probe request specifies a plurality of parameters that specify content payload of the  
27 probe transmission, and a second node to receive the probe transmission, which  
28 enhances flexibility and therefore, improves the receiving node's ability to efficiently

1 recognize the precise form of the transmitted probe. A true and accurate copy of the  
2 '690 Patent is attached hereto as Exhibit 3.

3 158. ~~156.~~ The '690 Patent is directed to patent-eligible subject matter pursuant  
4 to 35 U.S.C. § 101.

5 159. ~~157.~~ The '690 Patent is valid and enforceable, and presumed as such,  
6 pursuant to 35 U.S.C. § 282.

7 160. ~~158.~~ Comcast deploys one or more of the Accused Cable Modem  
8 Products in connection with operating and providing the Accused Services.

9 161. ~~159.~~ The Accused Cable Modem Products deployed by Comcast to  
10 customer premises remain the property of Comcast while deployed.

11 162. ~~160.~~ The Accused Cable Modem Products operate while deployed in a  
12 manner controlled and intended by Comcast.

13 163. ~~161.~~ As set forth in the attached nonlimiting claim chart (Exhibit 4),  
14 Comcast has directly infringed and is infringing at least Claims 7, and 8, ~~11, 15, and~~  
15 ~~16~~ of the '690 Patent by using, importing, selling, and/or offering for sale the  
16 Accused Cable Modem Products and/or the Accused Services.

17 164. ~~162.~~ Each aspect of the functioning of the Accused Cable Modem  
18 Products described in the claim chart operates while deployed to customer premises in  
19 a manner controlled and intended by Comcast.

20 165. ~~163.~~ Comcast provides no software, support, or other facility to  
21 customers to modify any aspect of the functioning described in the claim chart of the  
22 Accused Cable Modem Products while deployed to customer premises.

23 166. ~~164.~~ Comcast directly infringes at least Claims 7, and 8, ~~11, 15, and 16~~  
24 of the '690 Patent by using, importing, selling, and/or offering for sale the Accused  
25 Cable Modem Products (for example, the Technicolor CGM4140 cable modem)  
26 and/or the Accused Services (for example, performing bidirectional communication  
27 with cable modems).

1        167. ~~165.~~ The use of the Accused Services by Comcast to, for example,  
2 demonstrate products in brick-and-mortar stores at 685 East Betteravia Rd., Santa  
3 Maria, California, 93454; and 1145 N. H Street, Suite B, Lompoc, California 93436,  
4 or to, for example, test those products, constitute acts of direct infringement of at least  
5 Claims 7, and 8, ~~11, 15, and 16~~ of the '690 Patent.

6        168. ~~166.~~ Comcast has known of or has been willfully blind to the '690 Patent  
7 no later than the day before signing the [REDACTED].

8        169. ~~167.~~ Comcast has known of or has been willfully blind to the '690 Patent  
9 since no later than the date of its receipt of Entropic's communication sent to Comcast  
10 on August 9, 2022.

11        170. ~~168.~~ Comcast has been aware that it infringes the '690 Patent since well  
12 before, and no later than the date of, Entropic's August 9, 2022 communication,  
13 attached as Exhibit 17. Since obtaining knowledge of the '690 Patent and its  
14 infringing activities, Comcast has failed to cease its infringing activities.

15        171. ~~169.~~ Customers and subscribers of Comcast infringe at least Claims 7  
16 and 8 of the '690 Patent by using the claimed method, at least during receipt of the  
17 Accused Services utilizing, for example, the Accused Cable Modem Products ~~(for~~  
18 ~~example, the Technicolor CGM4140 cable modem).~~

19        172. ~~170.~~ Comcast actively induces customers' direct infringement. For  
20 example, Comcast actively induces infringement of at least Claims 7 and 8 of the '690  
21 Patent by providing the Accused Cable Modem Products to Comcast customers with  
22 specific instructions and/or assistance (including installation) regarding the use of the  
23 Accused Cable Modem Products to infringe the '690 Patent in accordance with the  
24 ordinary course of operation through the provision of the Accused Services. Comcast  
25 provides the cable modem functions claimed by the '690 Patent via the Accused  
26 Services, which enable and induce its customers to directly infringe the '690 Patent.  
27 For at least the above-listed reasons, Comcast aids, instructs, supports, and otherwise  
28

1 acts with the intent to cause an end user to use the Accused Cable Modem Products to  
2 infringe at least Claims 7 and 8 of the '690 Patent.

3 173. ~~171.~~ Comcast contributes to the customers' direct infringement. Comcast  
4 provides apparatuses, namely the Accused Cable Modem Products, that are used by  
5 customers to directly infringe at least Claims 7 and 8 of the '690 Patent.

6 174. ~~172.~~ The Accused Cable Modem Products have no substantial  
7 noninfringing uses. When an end user uses the Accused Cable Modem Products to  
8 receive the Accused Services, the end user directly infringes at least Claims 7 and 8 of  
9 the '690 Patent. The Accused Cable Modem Products are especially made or  
10 especially adapted for use in an infringing manner.

11 175. ~~173.~~ Comcast's inducement of, and contribution to, the direct  
12 infringement of at least Claims 7 and 8 of the '690 Patent is continuous and ongoing  
13 through acts such as providing the Accused Cable Modem Products to Comcast  
14 customers, which enables those customers to receive the Accused Services; Comcast's  
15 provision of the Accused Services; and technical assistance provided by Comcast for  
16 equipment it provides to its customers in support of the provision of the Accused  
17 Services.

18 176. ~~174.~~ Comcast's infringement of the '690 Patent is, has been, and  
19 continues to be willful, intentional, deliberate, and/or in conscious disregard for  
20 Entropic's rights under the patent.

21 177. ~~175.~~ Entropic has been damaged as a result of the infringing conduct  
22 alleged above. Comcast is liable to Entropic in an amount that compensates Entropic  
23 for Comcast's infringement, which by law cannot be less than a reasonable royalty,  
24 together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

25 178. ~~176.~~ No apparatus claims of the '690 Patent are presently asserted.  
26 Accordingly, there is no duty to mark pursuant to 35 U.S.C. § 287.

27 **COUNT III**

28 **(Infringement of the '008 Patent)**

1 179. ~~177.~~ Entropic incorporates by reference each allegation of the paragraphs  
2 above as if fully set forth herein.

3 180. Entropic served infringement contentions which included a claim chart  
4 for the '008 Patent on September 15, 2023.

5 181. ~~178.~~ The '008 Patent duly issued on July 29, 2014 from an application  
6 filed September 10, 2012, and, *inter alia* a provisional application filed September 8,  
7 2011.

8 182. ~~179.~~ Entropic owns all substantial rights, interest, and title in and to the  
9 '008 Patent, including the sole and exclusive right to prosecute this action and enforce  
10 the '008 Patent against infringers and to collect damages for all relevant times.

11 183. ~~180.~~ The '008 Patent generally describes a system that receives a signal  
12 having a plurality of channels, digitizes the received signal, and reports certain signal  
13 characteristics to the source of the received signal. A true and accurate copy of the  
14 '008 Patent is attached hereto as Exhibit 5.

15 184. ~~181.~~ The '008 Patent is directed to patent-eligible subject matter pursuant  
16 to 35 U.S.C. § 101.

17 185. ~~182.~~ The '008 Patent is valid and enforceable, and presumed as such,  
18 pursuant to 35 U.S.C. § 282.

19 186. ~~183.~~ Comcast deploys one or more of the Accused Cable Modem  
20 Products and Accused Set Top Products in connection with operating and providing  
21 the Accused Services.

22 187. ~~184.~~ The Accused Cable Modem Products and Accused Set Top Products  
23 deployed by Comcast to customer premises remain the property of Comcast while  
24 deployed.

25 188. ~~185.~~ The Accused Cable Modem Products and Accused Set Top Products  
26 operate while deployed in a manner controlled and intended by Comcast.

27 189. ~~186.~~ As set forth in the attached nonlimiting claim chart (Exhibit 6),  
28 Comcast has directly infringed and is infringing at least Claims ~~1~~1-6, 9, and ~~2~~10 of the

'008 Patent by using, importing, selling, and/or offering for sale the Accused Cable Modem Products and Accused Set Top Products and/or the Accused Services.

190. ~~187.~~ Each aspect of the functioning of the Accused Cable Modem Products and Accused Set Top Products described in the claim chart operates while deployed to customer premises in a manner controlled and intended by Comcast.

191. ~~188.~~ Comcast provides no software, support, or other facility to customers to modify any aspect of the functioning described in the claim chart of the Accused Cable Modem Products and Accused Set Top Products while deployed to customer premises.

192. ~~189.~~ Comcast directly infringes at least Claims ~~1~~1-6, 9, and ~~2~~10 of the '008 Patent by using, importing, selling, and/or offering for sale the Accused Cable Modem Products (for example, the Technicolor CGM4140 cable modem), Accused Set Top Products (for example, the Arris AX013ANM STB) and/or the Accused Services (for example, monitoring signals by the Accused Set Top Products).

193. ~~190.~~ The use of the Accused Cable Modem Products and Accused Set Top Products by Comcast to, for example, demonstrate products in brick-and-mortar stores at 685 East Betteravia Rd., Santa Maria, California, 93454; and 1145 N. H Street, Suite B, Lompoc, California 93436, or to, for example, test those products, constitute acts of direct infringement of at least Claims ~~1~~1-6, 9, and ~~2~~10 of the '008 Patent.

194. ~~191.~~ Comcast has known of or has been willfully blind to the '008 Patent no later than the day before [REDACTED]

195. ~~192.~~ Comcast has known of or has been willfully blind to the '008 Patent since before the August 9, 2022 communication from Entropic.

196. ~~193.~~ Comcast has been aware that it infringes the '008 Patent since well before, and no later than the date of, Entropic's August 9, 2022 communication, attached as Exhibit 17. Since obtaining knowledge of the '008 Patent and its infringing activities, Comcast has failed to cease its infringing activities.

1           197. ~~194.~~ Customers and subscribers of Comcast infringe at least Claims ~~1~~1-6,  
2           9, and ~~2~~10 of the '008 Patent by using the claimed system, at least during the use of  
3           the Accused Cable Modem Products and Accused Set Top Products ~~(for example, the~~  
4           ~~Arris AX013ANM STB).~~

5           198. ~~195.~~ Comcast actively induces customers' direct infringement. For  
6           example, Comcast actively induces infringement of at least Claims ~~1~~1-6, 9, and ~~2~~10 of  
7           the '008 Patent by providing the Accused Cable Modem Products and Accused Set  
8           Top Products to Comcast customers with specific instructions and/or assistance  
9           (including installation) regarding the use of the Accused Cable Modem Products and  
10          Accused Set Top Products to infringe the '008 Patent in accordance with the ordinary  
11          course of operation through the provision of the Accused Services. Comcast provides  
12          the full band digital tuning and signal monitoring functions claimed by the '008 Patent  
13          via the Accused Services, which enable and induce its customers to directly infringe  
14          the '008 Patent. For at least the above-listed reasons, Comcast aids, instructs,  
15          supports, and otherwise acts with the intent to cause an end user to use the Accused  
16          Cable Modem Products and Accused Set Top Products to infringe at least Claims  
17          ~~1~~1-6, 9, and ~~2~~10 of the '008 Patent.

18          199. ~~196.~~ Comcast contributes to the customers' direct infringement. Comcast  
19          provides apparatuses, namely the Accused Cable Modem Products and Accused Set  
20          Top Products, that are used by customers to directly infringe at least Claims ~~1~~1-6, 9,  
21          and ~~2~~10 of the '008 Patent.

22          200. ~~197.~~ The Accused Cable Modem Products and Accused Set Top Products  
23          have no substantial noninfringing uses. When an end user uses the Accused Cable  
24          Modem Products and Accused Set Top Products to receive the Accused Services, the  
25          end user directly infringes at least Claims ~~1~~1-6, 9, and ~~2~~10 of the '008 Patent. The  
26          Accused Cable Modem Products and Accused Set Top Products are especially made  
27          or especially adapted for use in an infringing manner.



1        209. ~~205.~~ The '362 Patent generally describes a wideband receiver system that  
2 down converts a plurality of frequencies including desired television channels and  
3 undesired television channels, digitizes frequencies, selects desired television  
4 channels from the frequencies, and outputs the selected television channels to a  
5 demodulator as a digital data stream. A true and accurate copy of the '362 Patent is  
6 attached hereto as Exhibit 7.

7        210. ~~206.~~ The '362 Patent is directed to patent-eligible subject matter pursuant  
8 to 35 U.S.C. § 101.

9        211. ~~207.~~ The '362 Patent is valid and enforceable, and presumed as such,  
10 pursuant to 35 U.S.C. § 282.

11        212. ~~208.~~ Comcast deploys one or more of the Accused Set Top Products in  
12 connection with operating and providing the Accused Services.

13        213. ~~209.~~ The Accused Set Top Products deployed by Comcast to customer  
14 premises remain the property of Comcast while deployed.

15        214. ~~210.~~ The Accused Set Top Products operate while deployed in a manner  
16 controlled and intended by Comcast.

17        215. ~~211.~~ As set forth in the attached nonlimiting claim chart (Exhibit 8),  
18 Comcast has directly infringed and is infringing at least ~~Claim~~Claims 11 and 12 of the  
19 '362 Patent by using, importing, selling, and/or offering for sale the Accused Set Top  
20 Products and/or the Accused Services.

21        216. ~~212.~~ Each aspect of the functioning of the Accused Set Top Products  
22 described in the claim chart operates while deployed to customer premises in a  
23 manner controlled and intended by Comcast.

24        217. ~~213.~~ Comcast provides no software, support, or other facility to  
25 customers to modify any aspect of the functioning described in the claim chart of the  
26 Accused Set Top Products while deployed to customer premises.

27        218. ~~214.~~ Comcast directly infringes at least ~~Claim~~Claims 11 and 12 of the  
28 '362 Patent by using, importing, selling, and/or offering for sale the Accused Set Top

1 Products (for example, the Arris AX013ANM STB) and/or the Accused Services (for  
2 example, digitizing and selecting desired television channels provided by Comcast).

3 219. ~~215.~~ The use of the Accused Set Top Products by Comcast to, for  
4 example, demonstrate products in brick-and-mortar stores at 685 East Betteravia Rd.,  
5 Santa Maria, California, 93454; and 1145 N. H Street, Suite B, Lompoc, California  
6 93436, or to, for example, test those products, constitute acts of direct infringement of  
7 at least ~~Claim~~Claims 11 and 12 of the '362 Patent.

8 220. ~~216.~~ Comcast has known of or has been willfully blind to the '362 Patent  
9 no later than the day before [REDACTED]

10 221. ~~217.~~ Comcast has known of or has been willfully blind to the '362 Patent  
11 since before the August 9, 2022 communication from Entropic.

12 222. ~~218.~~ Comcast has been aware that it infringes the '362 Patent since well  
13 before, and no later than the date of, its receipt of Entropic's August 9, 2022  
14 communication, attached as Exhibit 17. Since obtaining knowledge of the '362 Patent  
15 and its infringing activities, Comcast has failed to cease its infringing activities.

16 223. ~~219.~~ Customers and subscribers of Comcast infringe at least ~~Claim~~Claims  
17 11 and 12 of the '362 Patent by using the claimed system, at least during the use of  
18 the Accused Set Top Products ~~(for example, the Arris AX013ANM STB).~~

19 224. ~~220.~~ Comcast actively induces customers' direct infringement. For  
20 example, Comcast actively induces infringement of at least ~~Claim~~Claims 11 and 12 of  
21 the '362 Patent by providing the Accused Set Top Products to Comcast customers  
22 with specific instructions and/or assistance (including installation) regarding the use  
23 of the Accused Set Top Products to infringe the '362 Patent in accordance with the  
24 ordinary course of operation through the provision of the Accused Services. Comcast  
25 provides the television channel digitization, selection, and output functions claimed by  
26 the '362 Patent via the Accused Services, which enable and induce its customers to  
27 directly infringe the '362 Patent. For at least the above-listed reasons, Comcast aids,  
28 instructs, supports, and otherwise acts with the intent to cause an end user to use the

1 Accused Set Top Products to infringe at least ~~Claim~~Claims 11 and 12 of the '362  
2 Patent.

3 225. ~~221.~~ Comcast contributes to the customers' direct infringement. Comcast  
4 provides apparatuses, namely the Accused Set Top Products, that are used by  
5 customers to directly infringe at least ~~Claim~~Claims 11 and 12 of the '362 Patent.

6 226. ~~222.~~ The Accused Set Top Products have no substantial noninfringing  
7 uses. When an end user uses the Accused Set Top Products to receive the Accused  
8 Services, the end user directly infringes at least ~~Claim~~Claims 11 and 12 of the '362  
9 Patent. The Accused Set Top Products are especially made or especially adapted for  
10 use in an infringing manner.

11 227. ~~223.~~ Comcast's inducement of, and contribution to, the direct  
12 infringement of at least ~~Claim~~Claims 11 and 12 of the '362 Patent is continuous and  
13 ongoing through acts such as providing the Accused Set Top Products to Comcast  
14 customers, which enables those customers to receive the Accused Services; Comcast's  
15 provision of the Accused Services; and technical assistance provided by Comcast for  
16 equipment it provides to its customers in support of the provision of the Accused  
17 Services.

18 228. ~~224.~~ Comcast's infringement of the '362 Patent is, has been, and  
19 continues to be willful, intentional, deliberate, and/or in conscious disregard for  
20 Entropic's rights under the patent.

21 229. ~~225.~~ Entropic has been damaged as a result of the infringing conduct  
22 alleged above. Comcast is liable to Entropic in an amount that compensates Entropic  
23 for Comcast's infringement, which by law cannot be less than a reasonable royalty,  
24 together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

25 230. ~~226.~~ No apparatus claims of the '362 Patent are presently asserted.  
26 Accordingly, there is no duty to mark pursuant to 35 U.S.C. § 287.

27 **COUNT V**

28 **(Infringement of the '826 Patent)**

1        231. ~~227.~~ Entropic incorporates by reference each allegation of the paragraphs  
2 above as if fully set forth herein.

3        232. Entropic served infringement contentions which included a claim chart  
4 for the '826 Patent on September 15, 2023.

5        233. ~~228.~~ The '826 Patent duly issued on November 21, 2017 from an  
6 application filed November 23, 2015, an application filed July 28, 2014, an  
7 application filed September 10, 2012, and, *inter alia* a provisional application filed  
8 September 8, 2011.

9        234. ~~229.~~ Entropic owns all substantial rights, interest, and title in and to the  
10 '826 Patent, including the sole and exclusive right to prosecute this action and enforce  
11 the '826 Patent against infringers and to collect damages for all relevant times.

12        235. ~~230.~~ The '826 Patent generally describes a system that receives a signal  
13 having a plurality of channels, digitizes the received signal, and reports certain signal  
14 characteristics to the source of the received signal. A true and accurate copy of the  
15 '826 Patent is attached hereto as Exhibit 9.

16        236. ~~231.~~ The '826 Patent is directed to patent-eligible subject matter pursuant  
17 to 35 U.S.C. § 101.

18        237. ~~232.~~ The '826 Patent is valid and enforceable, and presumed as such,  
19 pursuant to 35 U.S.C. § 282.

20        238. ~~233.~~ Comcast deploys one or more of the Accused Cable Modem  
21 Products and Accused Set Top Products in connection with operating and providing  
22 the Accused Services.

23        239. ~~234.~~ The Accused Cable Modem Products and Accused Set Top Products  
24 deployed by Comcast to customer premises remain the property of Comcast while  
25 deployed.

26        240. ~~235.~~ The Accused Cable Modem Products and Accused Set Top Products  
27 operate while deployed in a manner controlled and intended by Comcast.

1        241. ~~236.~~ As set forth in the attached nonlimiting claim chart (Exhibit 10),  
2 Comcast has directly infringed and is infringing at least ~~Claim 1~~ Claims 1-4, 6, 8, and  
3 9 of the '826 Patent by using, importing, selling, and/or offering for sale the Accused  
4 Cable Modem Products, Accused Set Top Products and/or the Accused Services.

5        242. ~~237.~~ Each aspect of the functioning of the Accused Cable Modem  
6 Products and Accused Set Top Products described in the claim chart operates while  
7 deployed to customer premises in a manner controlled and intended by Comcast.

8        243. ~~238.~~ Comcast provides no software, support, or other facility to  
9 customers to modify any aspect of the functioning described in the claim chart of the  
10 Accused Cable Modem Products and Accused Set Top Products while deployed to  
11 customer premises.

12        244. ~~239.~~ Comcast directly infringes at least ~~Claim 1~~ Claims 1-4, 6, 8, and 9 of  
13 the '826 Patent by using, importing, selling, and/or offering for sale the Accused  
14 Cable Modem Products and Accused Set Top Products (for example, the ~~Arris~~  
15 ~~AX013ANM-STB~~ Technicolor CGM4140 cable modem) and/or the Accused Services  
16 (for example, monitoring signals by the Accused Cable Modem Products and Accused  
17 Set Top Products).

18        245. ~~240.~~ The use of the Accused Cable Modem Products and Accused Set  
19 Top Products by Comcast to, for example, demonstrate products in brick-and-mortar  
20 stores at 685 East Betteravia Rd., Santa Maria, California, 93454; and 1145 N. H  
21 Street, Suite B, Lompoc, California 93436, or to, for example, test those products,  
22 constitute acts of direct infringement of at least ~~Claim 1~~ Claims 1-4, 6, 8, and 9 of the  
23 '826 Patent.

24        246. ~~241.~~ Comcast has known of or has been willfully blind to the '826 Patent  
25 no later than the day before [REDACTED]

26        247. ~~242.~~ Comcast has known of or has been willfully blind to the '826 Patent  
27 since before the August 9, 2022 communication from Entropic.

1        248. ~~243.~~ Comcast has been aware that it infringes the '826 Patent since well  
2 before, and no later than the date of, its receipt of Entropic's August 9, 2022  
3 communication, attached as Exhibit 17. Since obtaining knowledge of the '826 Patent  
4 and its infringing activities, Comcast has failed to cease its infringing activities.

5        249. ~~244.~~ Customers and subscribers of Comcast infringe at least ~~Claim~~  
6 ~~1~~ Claims 1-4, 6, 8, and 9 of the '826 Patent by using the claimed system, at least  
7 during the use of the Accused Cable Modem Products and Accused Set Top Products  
8 ~~(for example, the Arris AX013ANM-STB).~~

9        250. ~~245.~~ Comcast actively induces customers' direct infringement. For  
10 example, Comcast actively induces infringement of at least ~~Claim 1~~ Claims 1-4, 6, 8,  
11 and 9 of the '826 Patent by providing the Accused Cable Modem Products and  
12 Accused Set Top Products to Comcast customers with specific instructions and/or  
13 assistance (including installation) regarding the use of the Accused Cable Modem  
14 Products and Accused Set Top Products to infringe the '826 Patent in accordance with  
15 the ordinary course of operation through the provision of the Accused Services.  
16 Comcast provides the signal monitoring claimed by the '826 Patent via the Accused  
17 Services, which enable and induce its customers to directly infringe the '826 Patent.  
18 For at least the above-listed reasons, Comcast aids, instructs, supports, and otherwise  
19 acts with the intent to cause an end user to use the Accused Cable Modem Products  
20 and Accused Set Top Products to infringe at least ~~Claim 1~~ Claims 1-4, 6, 8, and 9 of  
21 the '826 Patent.

22        251. ~~246.~~ Comcast contributes to the customers' direct infringement. Comcast  
23 provides apparatuses, namely the Accused Cable Modem Products and Accused Set  
24 Top Products, that are used by customers to directly infringe at least ~~Claim 1~~ Claims  
25 1-4, 6, 8, and 9 of the '826 Patent.

26        252. ~~247.~~ The Accused Cable Modem Products and Accused Set Top Products  
27 have no substantial noninfringing uses. When an end user uses the Accused Set Top  
28 Products to receive the Accused Services, the end user directly infringes at least ~~Claim~~

1 ~~4~~Claims 1-4, 6, 8, and 9 of the '826 Patent. The Accused Cable Modem Products and  
2 Accused Set Top Products are especially made or especially adapted for use in an  
3 infringing manner.

4 253. ~~248.~~ Comcast's inducement of, and contribution to, the direct  
5 infringement of at least ~~Claim 1~~Claims 1-4, 6, 8, and 9 of the '826 Patent is  
6 continuous and ongoing through acts such as providing the Accused Cable Modem  
7 Products and Accused Set Top Products to Comcast customers, which enables those  
8 customers to receive the Accused Services; Comcast's provision of the Accused  
9 Services; and technical assistance provided by Comcast for equipment it provides to  
10 its customers in support of the provision of the Accused Services.

11 254. ~~249.~~ Comcast's infringement of the '826 Patent is, has been, and  
12 continues to be willful, intentional, deliberate, and/or in conscious disregard for  
13 Entropic's rights under the patent.

14 255. ~~250.~~ Entropic has been damaged as a result of the infringing conduct  
15 alleged above. Comcast is liable to Entropic in an amount that compensates Entropic  
16 for Comcast's infringement, which by law cannot be less than a reasonable royalty,  
17 together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

18 256. ~~251.~~ No apparatus claims of the '826 Patent are presently asserted.  
19 Accordingly, there is no duty to mark pursuant to 35 U.S.C. § 287.

## 20 COUNT VI

### 21 (Infringement of the '682 Patent)

22 257. ~~252.~~ Entropic incorporates by reference each allegation of the paragraphs  
23 above as if fully set forth herein.

24 258. Entropic served infringement contentions which included a claim chart  
25 for the '682 Patent on September 15, 2023.

26 259. ~~253.~~ The '682 Patent duly issued on November 20, 2018 from an  
27 application filed January 9, 2018, an application filed February 16, 2017, an  
28

1 application filed August 4, 2016, an application filed July 23, 2013, and, *inter alia* a  
2 provisional application filed July 23, 2012.

3 260. ~~254.~~ Entropic owns all substantial rights, interest, and title in and to the  
4 '682 Patent, including the sole and exclusive right to prosecute this action and enforce  
5 the '682 Patent against infringers and to collect damages for all relevant times.

6 261. ~~255.~~ The '682 Patent generally describes a method performed by a cable  
7 modem termination system and/or converged cable access platform, the method  
8 including determining a corresponding signal-to-noise-ratio ("SNR") related metric,  
9 assigning cable modems to service groups based on a respective corresponding  
10 SNR-related metric, generating a composite SNR-related metric based on a worst-case  
11 SNR profile, selecting a physical layer communication parameter to be used for  
12 communicating with a service group based on a composite SNR-related metric, and  
13 communicating with cable modems in the service group using the selected physical  
14 layer communication parameter. A true and accurate copy of the '682 Patent is  
15 attached hereto as Exhibit 11.

16 262. ~~256.~~ The '682 Patent is directed to patent-eligible subject matter pursuant  
17 to 35 U.S.C. § 101.

18 263. ~~257.~~ The '682 Patent is valid and enforceable, and presumed as such,  
19 pursuant to 35 U.S.C. § 282.

20 264. ~~258.~~ Comcast deploys one or more of the Accused Cable Modem  
21 Products in connection with operating and providing the Accused Services.

22 265. ~~259.~~ The Accused Cable Modem Products deployed by Comcast to  
23 customer premises remain the property of Comcast while deployed.

24 266. ~~260.~~ The Accused Cable Modem Products operate while deployed in a  
25 manner controlled and intended by Comcast.

26 267. ~~261.~~ As set forth in the attached nonlimiting claim chart (Exhibit 12),  
27 Comcast has directly infringed and is infringing at least ~~Claim 1~~ Claims 1-5 and 9 of  
28

1 the '682 Patent by using, importing, selling, and/or offering for sale the Accused  
2 Services.

3 268. ~~262.~~ Each aspect of the functioning of the Accused Cable Modem  
4 Products described in the claim chart operates while deployed to customer premises in  
5 a manner controlled and intended by Comcast.

6 269. ~~263.~~ Comcast provides no software, support, or other facility to  
7 customers to modify any aspect of the functioning described in the claim chart of the  
8 Accused Cable Modem Products while deployed to customer premises.

9 270. ~~264.~~ Comcast directly infringes at least ~~Claim 1~~ Claims 1-5 and 9 of the  
10 '682 Patent by using, importing, selling, and/or offering for sale the Accused  
11 Services, which utilize cable modem termination systems and/or converged cable  
12 access platforms that communicate with the Accused Cable Modem Products (for  
13 example, the Technicolor CGM4140 cable modem).

14 271. ~~265.~~ The use of the Accused Services by Comcast to, for example,  
15 demonstrate products in brick-and-mortar stores at 685 East Betteravia Rd., Santa  
16 Maria, California, 93454; and 1145 N. H Street, Suite B, Lompoc, California 93436,  
17 or to, for example, test those products, constitute acts of direct infringement of at least  
18 ~~Claim 1~~ Claims 1-5 and 9 of the '682 Patent.

19 272. ~~266.~~ Comcast has known of or has been willfully blind to the '682 Patent  
20 no later than the day before [REDACTED]

21 273. ~~267.~~ Comcast has known of or has been willfully blind to the '682 Patent  
22 since before the August 9, 2022 communication from Entropic.

23 274. ~~268.~~ Comcast has been aware that it infringes the '682 Patent since well  
24 before, and no later than the date of, its receipt of Entropic's August 9, 2022  
25 communication, attached as Exhibit 17. Since obtaining knowledge of the '682 Patent  
26 and its infringing activities, Comcast has failed to cease its infringing activities.



1 the plurality of desired channels. A true and accurate copy of the '866 Patent is  
2 attached hereto as Exhibit 13.

3 283. ~~276.~~ The '866 Patent is directed to patent-eligible subject matter pursuant  
4 to 35 U.S.C. § 101.

5 284. ~~277.~~ The '866 Patent is valid and enforceable, and presumed as such,  
6 pursuant to 35 U.S.C. § 282.

7 285. ~~278.~~ Comcast deploys one or more of the Accused Set Top Products in  
8 connection with operating and providing the Accused Services.

9 286. ~~279.~~ The Accused Set Top Products deployed by Comcast to customer  
10 premises remain the property of Comcast while deployed.

11 287. ~~280.~~ The Accused Set Top Products operate while deployed in a manner  
12 controlled and intended by Comcast.

13 288. ~~281.~~ As set forth in the attached nonlimiting claim chart (Exhibit 14),  
14 Comcast has directly infringed and is infringing at least ~~Claim~~Claims 27, 28, 33, 36,  
15 37, 41, 42, 47, 50, and 51 of the '866 Patent by using, importing, selling, and/or  
16 offering for sale the Accused Set Top Products and/or the Accused Services.

17 289. ~~282.~~ Each aspect of the functioning of the Accused Set Top Products  
18 described in the claim chart operates while deployed to customer premises in a  
19 manner controlled and intended by Comcast.

20 290. ~~283.~~ Comcast provides no software, support, or other facility to  
21 customers to modify any aspect of the functioning described in the claim chart of the  
22 Accused Set Top Products while deployed to customer premises.

23 291. ~~284.~~ Comcast directly infringes at least ~~Claim~~Claims 27, 28, 33, 36, 37,  
24 41, 42, 47, 50, and 51 of the '866 Patent by using, importing, selling, and/or offering  
25 for sale the Accused Set Top Products (for example, the Arris AX013ANM STB)  
26 and/or the Accused Services (for example, digitizing and selecting desired television  
27 channels from an input signal).

1        292. ~~285.~~ The use of the Accused Set Top Products by Comcast to, for  
2        example, demonstrate products in brick-and-mortar stores at 685 East Betteravia Rd.,  
3        Santa Maria, California, 93454; and 1145 N. H Street, Suite B, Lompoc, California  
4        93436, or to, for example, test those products, constitute acts of direct infringement of  
5        at least ~~Claim~~Claims 27, 28, 33, 36, 37, 41, 42, 47, 50, and 51 of the '866 Patent.

6        293. ~~286.~~ Comcast has known of or has been willfully blind to the '362  
7        family, of which the '866 Patent is a member, no later than the day before [REDACTED]

8        [REDACTED]  
9        294. ~~287.~~ Comcast has known of or has been willfully blind to the '866 Patent  
10       since before the August 9, 2022 communication from Entropic.

11       295. ~~288.~~ Comcast has been aware that it infringes the '866 Patent since well  
12       before, and no later than the date of, its receipt of Entropic's August 9, 2022  
13       communication, attached as Exhibit 17. Since obtaining knowledge of the '866 Patent  
14       and its infringing activities, Comcast has failed to cease its infringing activities.

15       296. ~~289.~~ Customers and subscribers of Comcast infringe at least ~~Claim~~Claims  
16       27, 28, 33, 36, 37, 41, 42, 47, 50, and 51 of the '866 Patent by using the claimed  
17       system, at least during the use of the Accused Set Top Products ~~(for example, the~~  
18       ~~Arris AX013ANM STB).~~

19       297. ~~290.~~ Comcast actively induces customers' direct infringement. For  
20       example, Comcast actively induces infringement of at least ~~Claim~~Claims 27, 28, 33,  
21       36, 37, 41, 42, 47, 50, and 51 of the '866 Patent by providing the Accused Set Top  
22       Products to Comcast customers with specific instructions and/or assistance (including  
23       installation) regarding the use of the Accused Set Top Products to infringe the '866  
24       Patent in accordance with the ordinary course of operation through the provision of  
25       the Accused Services. For at least the above-listed reasons, Comcast aids, instructs,  
26       supports, and otherwise acts with the intent to cause an end user to use the Accused  
27       Set Top Products to infringe at least ~~Claim~~Claims 27, 28, 33, 36, 37, 41, 42, 47, 50,  
28       and 51 of the '866 Patent.

298. ~~291.~~Comcast contributes to the customers' direct infringement. Comcast provides apparatuses, namely the Accused Set Top Products, that are used by customers to directly infringe at least ~~Claim~~Claims 27, 28, 33, 36, 37, 41, 42, 47, 50, and 51 of the '866 Patent.

299. ~~292.~~ The Accused Set Top Products have no substantial noninfringing uses. When an end user uses the Accused Set Top Products to receive the Accused Services, the end user directly infringes at least ~~Claim~~Claims 27, 28, 33, 36, 37, 41, 42, 47, 50, and 51 of the '866 Patent. The Accused Set Top Products are especially made or especially adapted for use in an infringing manner.

300. ~~293.~~ Comcast's inducement of, and contribution to, the direct infringement of at least ~~Claim~~Claims 27, 28, 33, 36, 37, 41, 42, 47, 50, and 51 of the '866 Patent is continuous and ongoing through acts such as providing the Accused Set Top Products to Comcast customers, which enables those customers to receive the Accused Services; Comcast's provision of the Accused Services; and technical assistance provided by Comcast for equipment it provides to its customers in support of the provision of the Accused Services.

301. ~~294.~~ Comcast's infringement of the '866 Patent is, has been, and continues to be willful, intentional, deliberate, and/or in conscious disregard for Entropic's rights under the patent.

302. ~~295.~~ Entropic has been damaged as a result of the infringing conduct alleged above. Comcast is liable to Entropic in an amount that compensates Entropic for Comcast's infringement, which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

303. ~~296.~~ Entropic is aware of no obligation to mark any instrumentality with the '866 Patent in accordance with 35 U.S.C. § 287.

## COUNT VIII

**(Infringement of the '206 Patent)**

1        304. ~~297.~~ Entropic incorporates by reference each allegation of the paragraphs  
2 above as if fully set forth herein.

3        305. Entropic served infringement contentions which included a claim chart  
4 for the '206 Patent on September 15, 2023.

5        306. ~~298.~~ The '206 Patent duly issued on July 26, 2022 from an application  
6 filed January 28, 2022, an application filed March 30, 2021, an application filed June  
7 4, 2019, an application filed October 24, 2017, an application filed November 23,  
8 2015, an application filed February 10, 2015, an application filed August 8, 2013, an  
9 application filed April 19, 2010, and, *inter alia* a provisional application filed April  
10 17, 2009.

11        307. ~~299.~~ Entropic owns all substantial rights, interest, and title in and to the  
12 '206 Patent, including the sole and exclusive right to prosecute this action and enforce  
13 the '206 Patent against infringers and to collect damages for all relevant times.

14        308. ~~300.~~ The '206 Patent generally describes ~~a receiver system that~~  
15 ~~receives~~receiving an input signal from a cable network, ~~digitizes~~digitizing the entire  
16 input signal, ~~concurrently selects~~selecting a plurality of desired channels from the  
17 digitized input signal without selecting any undesired channels, and  
18 ~~provides~~providing the plurality of desired channels. A true and accurate copy of the  
19 '206 Patent is attached hereto as Exhibit 15.

20        309. ~~301.~~ The '206 Patent is directed to patent-eligible subject matter pursuant  
21 to 35 U.S.C. § 101.

22        310. ~~302.~~ The '206 Patent is valid and enforceable, and presumed as such,  
23 pursuant to 35 U.S.C. § 282.

24        311. ~~303.~~ Comcast deploys one or more of the Accused Cable Modem  
25 Products and Accused Set Top Products in connection with operating and providing  
26 the Accused Services.

1        312. ~~304.~~ The Accused Cable Modem Products and Accused Set Top Products  
2 deployed by Comcast to customer premises remain the property of Comcast while  
3 deployed.

4        313. ~~305.~~ The Accused Cable Modem Products and Accused Set Top Products  
5 operate while deployed in a manner controlled and intended by Comcast.

6        314. ~~306.~~ As set forth in the attached nonlimiting claim chart (Exhibit 16),  
7 Comcast has directly infringed and is infringing at least ~~Claim~~ Claims 13, 14, 19, 21,  
8 23, 25, 26, 31, 34, 35, 38, 39, 44, 47, and 48 of the '206 Patent by using, selling,  
9 and/or offering for sale the Accused Services through the Accused Cable Modem  
10 Products and Accused Set Top Products.

11        315. ~~307.~~ Each aspect of the functioning of the Accused Cable Modem  
12 Products and Accused Set Top Products described in the claim chart operates while  
13 deployed to customer premises in a manner controlled and intended by Comcast.

14        316. ~~308.~~ Comcast provides no software, support, or other facility to  
15 customers to modify any aspect of the functioning described in the claim chart of the  
16 Accused Cable Modem Products and Accused Set Top Products while deployed to  
17 customer premises.

18        317. ~~309.~~ Comcast directly infringes at least ~~Claim~~ Claims 13, 14, 19, 21, 23,  
19 25, 26, 31, 34, 35, 38, 39, 44, 47, and 48 of the '206 Patent by using, importing,  
20 selling, and/or offering for sale the Accused Cable Modem Products (for example, the  
21 Technicolor CGM4140 cable modem), Accused Set Top Products (for example, the  
22 Arris AX013ANM STB), and/or the Accused Services (for example, digitizing and  
23 selecting desired ~~television~~ channels from an input signal).

24        318. ~~310.~~ The use of the Accused Services through the Accused Cable Modem  
25 Products and Accused Set Top Products by Comcast to, for example, demonstrate  
26 products in brick-and-mortar stores at 685 East Betteravia Rd., Santa Maria,  
27 California, 93454; and 1145 N. H Street, Suite B, Lompoc, California 93436, or to,  
28 for example, test those products, constitute acts of direct infringement of at least

~~Claim~~ Claims 13, 14, 19, 21, 23, 25, 26, 31, 34, 35, 38, 39, 44, 47, and 48 of the '206 Patent.

319. ~~311.~~ Customers and subscribers of Comcast infringe at least ~~Claim~~ Claims 13, 14, 19, 21, 23, 25, 26, 31, 34, 35, 38, 39, 44, 47, and 48 of the '206 Patent by using the claimed method, at least during receipt of the Accused Services utilizing, for example, the Accused Cable Modem Products and Accused Set Top Products (for example, the ~~Arris AX013ANM-STB~~ Technicolor CGM4140 cable modem).

320. ~~312.~~ The Accused Cable Modem Products and Accused Set Top Products have no substantial noninfringing uses. When an end user uses the Accused Cable Modem Products and Accused Set Top Products to receive the Accused Services, the end user directly infringes at least ~~Claim~~ Claims 13, 14, 19, 21, 23, 25, 26, 31, 34, 35, 38, 39, 44, 47, and 48 of the '206 Patent. The Accused Cable Modem Products and Accused Set Top Products are especially made or especially adapted for use in an infringing manner.

321. ~~313.~~ Entropic has been damaged as a result of the infringing conduct alleged above. Comcast is liable to Entropic in an amount that compensates Entropic for Comcast's infringement, which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

322. ~~314.~~ No apparatus claims of the '206 Patent are presently asserted. Accordingly, there is no duty to mark pursuant to 35 U.S.C. § 287.

323. ~~315.~~ Comcast has known of or has been willfully blind to the '362 family, of which the '206 Patent is a member, no later than the day before signing the

[REDACTED]

324. ~~316.~~ Since obtaining knowledge of the '362 family, of which the '206 Patent is a member, and its infringing activities, Comcast has failed to cease its infringing activities.

325. ~~317.~~Comcast's infringement of the '206 Patent is, has been, and continues to be willful, intentional, deliberate, and/or in conscious disregard for Entropic's rights under the patent.

## COUNT IX

**(Infringement of the '275 Patent)**

326. Entropic incorporates by reference each allegation of the paragraphs  
above as if fully set forth herein.

327. Entropic served an infringement contention claim chart for the '275 Patent on November 3, 2023.

328. The '275 Patent duly issued on October 10, 2023 from an application filed September 30, 2022, an application filed July 12, 2022, an application filed January 28, 2022, an application filed March 30, 2021, an application filed June 4, 2019, an application filed October 24, 2017, an application filed November 23, 2015, an application filed February 10, 2015, an application filed August 8, 2013, an application filed April 19, 2010, and, *inter alia* a provisional application filed April 17, 2009.

329. Entropic owns all substantial rights, interest, and title in and to the '275 Patent, including the sole and exclusive right to prosecute this action and enforce the '275 Patent against infringers and to collect damages for all relevant times.

330. The '275 Patent generally describes a wideband receiver system that digitizes an input signal, selects desired channels from the digitized signal, and outputs the selected desired channels for demodulation. A true and accurate copy of the '275 Patent is attached hereto as Exhibit 18.

331. The '275 Patent is directed to patent-eligible subject matter pursuant to 35 U.S.C. § 101.

332. The '275 Patent is valid and enforceable, and presumed as such, pursuant  
to 35 U.S.C. § 282.

1       333. Comcast deploys one or more of the Accused Set Top Products in  
2 connection with operating and providing the Accused Services.

3       334. The Accused Set Top Products deployed by Comcast to customer  
4 premises remain the property of Comcast while deployed.

5       335. The Accused Set Top Products operate while deployed in a manner  
6 controlled and intended by Comcast.

7       336. As set forth in the attached nonlimiting claim chart (Exhibit 19), Comcast  
8 has directly infringed and is infringing at least Claims 1, 2, 5, 7, 8, 10-12, 15, 17, 18,  
9 and 20 of the '275 Patent by using, selling, and/or offering for sale the Accused  
10 Services through the Accused Set Top Products.

11       337. Each aspect of the functioning of the Accused Set Top Products  
12 described in the claim chart operates while deployed to customer premises in a  
13 manner controlled and intended by Comcast.

14       338. Comcast provides no software, support, or other facility to customers to  
15 modify any aspect of the functioning described in the claim chart of the Accused Set  
16 Top Products while deployed to customer premises.

17       339. Comcast directly infringes at least Claims 1, 2, 5, 7, 8, 10-12, 15, 17, 18,  
18 and 20 of the '275 Patent by using, importing, selling, and/or offering for sale the  
19 Accused Set Top Products (for example, the Arris AX013ANM STB) and/or the  
20 Accused Services (for example, digitizing and selecting desired channels from an  
21 input signal).

22       340. The use of the Accused Services through the Accused Set Top Products  
23 by Comcast to, for example, demonstrate products in brick-and-mortar stores at 685  
24 East Betteravia Rd., Santa Maria, California, 93454; and 1145 N. H Street, Suite B,  
25 Lompoc, California 93436, or to, for example, test those products, constitute acts of  
26 direct infringement of at least Claims 1, 2, 5, 7, 8, 10-12, 15, 17, 18, and 20 of the  
27 '275 Patent.

1       341. Customers and subscribers of Comcast infringe at least Claims 1, 2, 5, 7,  
2 8, 10-12, 15, 17, 18, and 20 of the '275 Patent by using the claimed method, at least  
3 during receipt of the Accused Services utilizing, for example, the Accused Set Top  
4 Products.

5       342. The Accused Set Top Products have no substantial noninfringing uses.  
6 When an end user uses the Accused Set Top Products to receive the Accused  
7 Services, the end user directly infringes at least Claims 1, 2, 5, 7, 8, 10-12, 15, 17, 18,  
8 and 20 of the '275 Patent. The Accused Set Top Products are especially made or  
9 especially adapted for use in an infringing manner.

10       343. Entropic has been damaged as a result of the infringing conduct alleged  
11 above. Comcast is liable to Entropic in an amount that compensates Entropic for  
12 Comcast's infringement, which by law cannot be less than a reasonable royalty,  
13 together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

14       344. Comcast has known of or has been willfully blind to the '362 family, of  
15 which the '275 Patent is a member, no later than the day before signing the [REDACTED]  
16 [REDACTED]

17       345. Since obtaining knowledge of the '362 family, of which the '275 Patent  
18 is a member, and its infringing activities, Comcast has failed to cease its infringing  
19 activities.

20       346. Comcast has known of or has been willfully blind to the '275 Patent  
21 since at least November 3, 2023, when Entropic served Comcast its infringement  
22 contention claim charts.

23       347. Comcast has been aware that it infringes the '275 Patent since well  
24 before, and no later than the date of, its receipt of Entropic's infringement contention  
25 claim charts served on November 3, 2023. Since obtaining knowledge of the '275  
26 Patent and its infringing activities, Comcast has failed to cease its infringing activities.

348. Comcast's infringement of the '275 Patent is, has been, and continues to be willful, intentional, deliberate, and/or in conscious disregard for Entropic's rights under the patent.

349. Entropic is aware of no obligation to mark any instrumentality with the  
'275 Patent in accordance with 35 U.S.C. § 287.

COUNT X

**(Infringement of the '438 Patent)**

350. Entropic incorporates by reference each allegation of Paragraphs 1 through 349.

351. Entropic served an infringement contention claim chart for the '438 Patent on November 3, 2023.

352. The '438 Patent duly issued on January 9, 2018, from an application filed February 16, 2017, an application filed August 4, 2016, an application filed July 23, 2013, and, *inter alia* a provisional application filed July 23, 2012.

353. Entropic owns all substantial rights, interest, and title in and to the '438 Patent, including the sole and exclusive right to prosecute this action and enforce the '438 Patent against infringers and to collect damages for all relevant times.

354. The '438 Patent generally describes a mechanism for determining communication parameters for communications between a cable modem termination system and cable modems. A true and accurate copy of the '438 Patent is attached hereto as Exhibit 20.

355. The '438 Patent is directed to patent-eligible subject matter pursuant to  
35 U.S.C. § 101.

356. The '438 Patent is valid and enforceable, and presumed as such, pursuant  
to 35 U.S.C. § 282.

357. Comcast deploys one or more of the Accused Cable Modem Products and Accused Set Top Products in connection with operating and providing the Accused Services.

1       358. The Accused Cable Modem Products and Accused Set Top Products  
2 deployed by Comcast to customer premises remain the property of Comcast while  
3 deployed.

4       359. The Accused Cable Modem Products operate while deployed in a manner  
5 controlled and intended by Comcast.

6       360. As set forth in the attached nonlimiting claim chart (Exhibit 21), Comcast  
7 has directly infringed and is infringing at least Claims 1-5 and 9 of the '438 Patent, by  
8 using, importing, selling, and/or offering for sale the Accused Services.

9       361. Each aspect of the functioning of the Accused Cable Modem Products  
10 and Accused Set Top Products described in the claim chart operates while deployed to  
11 customer premises in a manner controlled and intended by Comcast.

12       362. Comcast provides no software, support, or other facility to customers to  
13 modify any aspect of the functioning described in the claim chart of the Accused  
14 Cable Modem Products and Accused Set Top Products while deployed to customer  
15 premises.

16       363. Comcast directly infringes at least Claims 1-5 and 9 of the '438 Patent by  
17 using, importing, selling, and/or offering for sale the Accused Services, which utilize  
18 cable modem termination systems and/or converged cable access platforms that  
19 communicate with the Accused Cable Modem Products and Accused Set Top  
20 Products (for example, the Technicolor CGM4140 cable modem).

21       364. The use of the Accused Services by Comcast to, for example,  
22 demonstrate products in brick-and-mortar stores at 685 East Betteravia Rd., Santa  
23 Maria, California, 93454; and 1145 N. H Street, Suite B, Lompoc, California 93436,  
24 or to, for example, test those products, constitute acts of direct infringement of at least  
25 Claims 1-5 and 9 of the '438 Patent.

26       365. Comcast has known of or has been willfully blind to the '682 family, of  
27 which the '438 Patent is a member, no later than the day before signing the [REDACTED]

28 [REDACTED]

1        366. Since obtaining knowledge of the '682 family, of which the '438 Patent  
2 is a member, and its infringing activities, Comcast has failed to cease its infringing  
3 activities.

4        367. Comcast has been aware that it infringes the '438 Patent since well  
5 before, and no later than the date of, its receipt of Entropic's infringement contention  
6 claim charts served on November 3, 2023. Since obtaining knowledge of the '438  
7 Patent and its infringing activities, Comcast has failed to cease its infringing activities.

8        368. Comcast's infringement of the '438 Patent is, has been, and continues to  
9 be willful, intentional, deliberate, and/or in conscious disregard for Entropic's rights  
10 under the patent.

11        369. Entropic has been damaged as a result of the infringing conduct alleged  
12 above. Comcast is liable to Entropic in an amount that compensates Entropic for  
13 Comcast's infringement, which by law cannot be less than a reasonable royalty,  
14 together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

15        370. No apparatus claims of the '438 Patent are presently asserted.  
16 Accordingly, there is no duty to mark pursuant to 35 U.S.C. § 287.

17                    **PRAYER FOR RELIEF**

18        WHEREFORE, Entropic requests that:

19        A.     The Court find that Comcast has directly infringed the Patents-in-Suit  
20 and hold Comcast liable for such infringement;

21        B.     The Court find that Comcast has indirectly infringed the Patents-in-Suit  
22 by inducing its customers to directly infringe the Patents-in-Suit and hold Comcast  
23 liable for such infringement;

24        C.     The Court find that Comcast has indirectly infringed the Patents-in-Suit  
25 by contributing to its customers' direct infringement of the Patents-in-Suit and hold  
26 Comcast liable for such infringement;

1 D. The Court award damages pursuant to 35 U.S.C. § 284 adequate to  
2 compensate Entropic for Comcast's past infringement of the Patents-in-Suit, including  
3 both pre- and post-judgment interest and costs as fixed by the Court;

4 E. The Court find that Comcast willfully infringed the Patents-in-Suit, and  
5 increase the damages to be awarded to Entropic by three times the amount found by  
6 the jury or assessed by the Court;

7 F. The Court declare that this is an exceptional case entitling Entropic to its  
8 reasonable attorneys' fees under 35 U.S.C. § 285; and

9 G. The Court award such other relief as the Court may deem just and proper.

10 **JURY TRIAL DEMANDED**

11 Pursuant to Rule 38(b) of the Federal Rules of Civil Procedure, Entropic hereby  
12 requests a trial by jury on all issues raised by this Complaint.  
13

14 Dated: November 10, 2023

Respectfully submitted,

15 By: /s/ ~~Connor J. Meggs~~ Cassidy T. Young

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